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The Harpswell Laboratory 1898-1920: A Marine Biological Station

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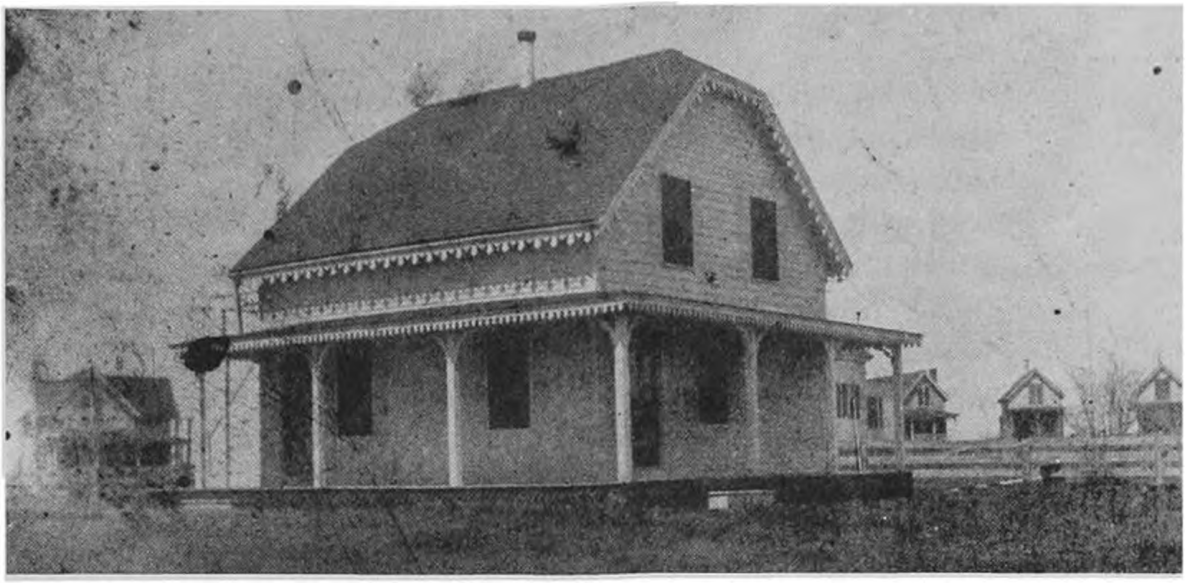
THE HARPSWELL LABORATORY 1898-1920 A MARINE BIOLOGICAL STATION

Despite less than successful beginnings at South Harpswell, Maine, in the summer of 1898, the present Mount Desert Island Biological Laboratory (MDIBL) has developed into the largest cold water marine biological station on the east coast.[1] The laboratory's most important attribute, well appreciated by its founder, J. S. Kingsley of Tufts College (now University), has been its location adjacent to the abundant Gulf of Maine waters. Here cold currents from arctic regions, untouched by the Gulf Stream, still yield dogfish, crabs, lobsters, clam worms, sea urchins, sea cucumbers, starfish, sand dollars, and many seaweeds. In an article published in 1903 Kingsley noted that at least a quarter, and perhaps even a third, of the marine forms found in the Gulf of Maine were then entirely wanting or very rare at two well established laboratories south of Cape Cod.[2] Dynamic leadership by Kingsley and others through a century of growth transformed the MDIBL into a world-renowned scientific resource center.

John Sterling Kingsley was born in Cincinnatus, New York, in 1854 and earned his way through college after his father's death. He received his B.A. degree from Williams College in 1875 and his Sc.D. degree from Princeton University in 1885. A colleague, biologist Herbert V. Neal, described Kingsley's education:

> Throughout these study years, Kingsley was self-supporting. To this end he utilized his exceptional gift as an artist. He made his living expenses by drawing illustrations for scientific books, journals, and reports, as well as diagrams for lecture illustrations. Occasionally he was paid by some journal for contributing upon scientific subjects. By such apprenticeship in thrift, Kingsley prepared himself for his life as a college professor. However small his salary, and he never received a large one, he was always able to save.[3]



Classes and research in the Harpswell cottage-laboratory were conducted on the ground floor, and students slept upstairs. Although its beginnings were modest, the Harpswell Laboratory grew over the course of nearly a century to become one of the nation's foremost cold water marine research stations. All photos in this article courtesy of the author.

Kingsley began his career as professor of zoology and biology in 1887 at Indiana University and moved two years later to the University of Nebraska. He then settled at Tufts College in Medford, Massachusetts, from 1892 to 1913 as professor and from 1903 to 1912 as the first dean of the graduate school. In the classroom Kingsley was an "inspiring teacher." Neal wrote that his lectures, "illustrated by freehand drawings on the blackboard and enlivened by flashes of humor, will long be remembered as models of lucid exposition. As a laboratory instructor he succeeded in stimulating the imagination of his students."[4] According to the eminent mathematician Norbert Wierner, J. S. Kingsley (as he signed his name) "was a small birdlike man and the most inspiring scientist whom I met in my undergraduate days."[5] The beaklike point of the professor's Vandyck beard gave him an air of alertness. For most of his life Kingsley was an editor and an author as well as a teacher. Before starting the Harpswell Laboratory at the age of forty-four, he had already edited the six-volume *Standard Natural History* (1882-86) and for twelve years he edited a periodical, *The American Naturalist* (1884-96).

Kingsley could have located his Tufts Summer School of Biology anywhere along the coast of Maine, but Harpswell was more convenient to Medford than, say, Eastport, and at Harpswell supplies and equipment could be obtained quickly from Portland, only two hours away by frequent steamers. Furthermore, the numerous boarding houses and hotels of Harpswell would relieve him of most of the responsibility for housing his undergraduate students and the investigators and their families.

What magic did J. S. Kingsley exercise to start the MDIBL on its present course? The opening of the Tufts Summer School of Biology in 1898 was incredibly modest. As a temporary laboratory and dormitory, Kingsley rented a cottage on Potts Point in South Harpswell. Research was done on the ground floor, while several students roomed on the second floor.[6] No doubt the odor of formaldehyde, plus various fishy smells, invaded the bedrooms upstairs, then ventilated only by a window in each of the two gables. The live specimens in the laboratory's tubs needed salt water, which was carried in buckets a good half mile uphill from the shore. When Kingsley saw his students doing that chore, he may have regretted having announced in the *Tufts Weekly* that they would find the summer both delightful and rewarding.[7]

In that little cottage in 1898 Kingsley enrolled seven persons from Tufts: two male and two female undergraduate students, and three male graduate students. Also enrolled was a student from Colby College and two adults: a physician from South Boston and an unidentified lady from Amherst, Massachusetts — presumably investigators.[8] In the summers of 1899 and 1900 Tufts College offered no laboratory courses anywhere, but Kingsley was not deterred. He searched for a vacant waterfront lot, raised money, and designed a laboratory building. The idea of a summer school that would combine teaching and research was still alive in his imagination.

The Tufts Summer School of Biology opened the session of 1901 in its own twenty-four by thirty foot laboratory on a

little shore lot at South Harpswell. At the same time Kingsley acquired an adjoining piece of land on which he had a cottage built for himself, his wife, and his daughter. For many years he served not only as director of the laboratory but also as its business manager, ordering supplies and approving vouchers, and as host to its scientific visitors. In the same years he wrote and illustrated his *Guide for Vertebrate Dissection,* published in 1907, and his *Comparative Anatomy of Vertebrates* of 1912. From 1910 to 1920 he edited the *Journal of Morphology.*

Conditions were crowded during the new laboratory's first year. Eight undergraduates and four investigators occupied the three study tables and the three private rooms, while the two instructors, Kingsley and a botanist, had the two remaining rooms. Kingsley had four more private rooms added before the session of 1902. This enlarged building with added windows was never again altered as long as it served as a laboratory, except for a small utility closet added on the sea side.

When the editor of *Science* asked for a description of the Harpswell Laboratory for the issue of June 19, 1903, Kingsley wrote:

> It is easy to comply, for this biological station is one of the most unpretentious structures one could imagine, as will be readily understood when it is said that the whole plant — land, building and permanent equipment — has cost within $1,000. A one-story wooden building measuring 24 x 42 feet on the ground, with sixteen windows, stands directly on the rocky shore a little to one side of a sandy beach. Inside, the space is divided up into nine rooms for investigators and a larger room accommodating from six to ten elementary students. At either end are large double doors, and the building is so oriented that in the summer the prevailing southwest wind blows straight through the laboratory, keeping the temperature down on the warmest days. In the past two years there has been but one day when the thermometer has gone above 78° F in the laboratory.[9]

Both the accommodations and the research equipment at Harpswell in the early years were primitive. Until 1928 the laboratory had neither electric pumps nor electric lights, and fresh saltwater (in the bucket, perhaps, initialed "TCBL," for Tufts College Biological Laboratory) was carried from the shore daily by hand.

Some unspecified equipment was transported from Tufts College to Harpswell each year. Kingsley listed the laboratory's permanent equipment as two rowboats; assorted dredges, seines, and tangles; abundant glassware; several small microscopes; minor apparatus, and the "nucleus of a library on morphology and marine biology." Equipment also included a large stock of chemicals and reagents. Remember, too, that the laboratory was without electric pumps; hence no running water was available, either salt or fresh. After sunset the only sources of light were flashlights, candles, and kerosene lanterns. Harpswell did not get electricity until 1928.[10] Much significant and pioneering work was done in early laboratories like Kingsley's, even in the absence of sophisticated instrumentation. Despite limited equipment, six reports based primarily on research done at Harpswell had already been published by 1903.

The day-to-day program for the undergraduates included courses in invertebrate zoology, vertebrate zoology, botany,

embryology, and investigation. Tuition was twenty dollars for each course, for which college credit was given. One of Kingsley's colleagues at Tufts, botany professor Fred D. Lambert, assisted in the teaching. A lively and informative article in the *Lewiston Journal* explained that "The men outnumber the women, but the women have their place with equal rights with those of the opposite sex. All share alike."[11] Warmhearted Mrs. Kingsley hosted the women scientists with the help of her daughter, Mary. Two of Mrs. Kingsley's sisters and their ward, the daughter of a deceased sister, lived next door in a cottage of their own each summer. For every social occasion at the laboratory, the two households, comprising Dr. Kingsley and the five ladies, joined to entertain guests or to give a party for the children. At such times the laboratory's big room smelled of lemonade and cinnamon cookies instead of formaldehyde.

The routine activities of the biologists' wives included walking to the general store for groceries and for mail. (The post office occupied an enclosed space in the store separate from the shelves of food.) Automobiles were unavailable, and only hotels and large boardinghouses owned carriages. A local stable, however, rented a horse and buggy for those who wished to visit friends up the road. The children spent busy days on the beach gathering seashells at high tide or making footprints in the mud at low tide. Simplicity and congeniality abounded. Some families lived in tents, and at noon the investigators walked to their lodgings or returned to the tents, where wives and children had a meal ready. Shoptalk was heady in the big room of the laboratory, especially with visiting scientists.

The tenor of life at the Harpswell Laboratory derived in part from Kingsley's personality. His cordiality welded students, colleagues, and family members into a close and genial community. Neal described Kingsley's dynamic presence as director: "While in the laboratory he made frequent calls on other workers, such interludes served to refresh him for renewed exertion. He seemed inexhaustible. His capacity for friendship was notable. He was at home with all sorts and conditions of men. His friendly and kindly spirit attracted people to him." Some biologists became habitues at Harpswell, drawn not only

by scientific advantages but by the unique community relationship that bound together the personnel under Kingsley's leadership. Whole families discovered, as Kingsley put it, "the richness of the fauna and the charms of the place."[12]

The closing of the 1905 session marked a major turning point in the history of the laboratory. Its facilities were thereafter reserved for investigators only. Kingsley admitted that he felt a certain incompatibility between teaching and research in the same laboratory. The undergraduate instruction proved to be, as he said, "a drawback, ... a restriction and a hindrance to the investigators."[13] Furthermore, the student enrollment declined. The laboratory's instructors, after all, received no pay for their work, and student fees, after the payment of necessary expenses, went into the laboratory and its equipment; it is not surprising that classes were discontinued after 1905.[14]

After 1905 Dr. Lambert, still teaching botany at Tufts but now free of summer classes, became a professional supplier of cold-water fauna to biologists all over the world. From the laboratory and the cottage that he built on Basin Point, across the bay to the west, he issued catalogs that offered various kinds of *Porifera, Coelenterata, Echinoderma, Vermes,* and *Vertebrata.* His four-page *Annual Price List-Harpswell Laboratory Material-1908* lists dogfish in four stages of development: adults, "gaters" (juveniles), pups, and embryos. A selection from the 1908 catalog suggests the type of services performed by the lab:

VERTEBRATA

Acanthias vulgaris	Each	Dozen
Large adults	$ .75	$6.00
Arteries injected	1.00	7.50
Complete injection	1.25	9.00
For skeletons, in pickle	.75	4.00
Large heads for brains and nerves	.50	3.00

The dogfish, *Squalus acanthias,* was — and has remained — the most important species at the laboratory. People are still

alive who as children watched investigators at Harpswell preparing barrels of dogfish to sell to university departments of biology for the study of circulatory systems. They recall watching the injected red fluid spreading along the arteries and then the blue running into the veins. Income from the sale of prepared dogfish probably helped to support the laboratory.

Dr. Kingsley's life also changed when undergraduates were no longer under foot. In the summer of 1907 he introduced as assistant director Herbert V. Neal, a brilliant teacher and scholar interested in the nervous system of fishes. Neal, who had first attended Kingsley's laboratory in 1904, was born in Lewiston, Maine, in 1869 and received his B.A. degree from Bates College in Lewiston and his Ph.D. from Harvard University. During the academic year he taught at Knox College in Galesburg, Illinois. The Neals — Herbert and his schoolteacher wife, Helen Howell Neal, their twin daughters, and a son — were renowned for their diverse interests and aggressive energy.

By appointing Neal as assistant director, Kingsley not only divided the administrative load but also prepared Neal to be acting director in the summer of 1908, when Kingsley would be attending an international zoological congress in Austria. In 1913 Neal would become director of the laboratory. He remained in that position until 1917, and resumed the directorship between 1926 and 1932 at Salsbury Cove.

The 1910 session brought an important reorganization of the finances of the Harpswell Laboratory, which lacked the support of federal agencies and foundations such as now make monetary grants to projects like the MDIBL. Most of the income had been derived from fees paid by the investigators. Tufts did appropriate $300 in 1909, but this seems to have been exceptional. Beginning with the 1910 session an institution could rent a laboratory room for one of its own faculty members or for one of its advanced graduate students for fifty dollars. This plan, in addition to other benefits, freed the laboratory staff from the responsibility of screening applicants: the college or university guaranteed the professional status of its representative. Furthermore, the plan established useful relationships

with a wide range of nationally respected institutions. Foundations for the national and ultimately international reputation of the MDIBL were established as early as 1910.

Kingsley's initiative produced great changes in personnel at Tufts College, Knox College, and the Harpswell Laboratory. In 1913 Kingsley resigned from Tufts and accepted a position at the University of Illinois in Urbana, where he remained until retiring in 1921 and moving to Berkeley, California.[15] Neal resigned from Knox College and took Kingsley's place as professor at Tufts and director at Harpswell. The year brought another dramatic change: the separation of the Harpswell Laboratory from Tufts College. By the spring of 1913 the laboratory, Kingsley felt, was ready to become an independent entity. On April 15 he addressed a letter to the trustees of Tufts College pointing out that the college could not afford to repair the twelve-year-old "somewhat dilapidated and shakey" laboratory, which in fact did "not appear as an asset on the books of the College." During the past year, he added, Tufts had contributed nothing except the taxes on the property.[16] He proposed that the laboratory become a corporation owned and controlled at first by representatives of the institutions already supporting it: Tufts and Knox colleges and four universities: Columbia, Princeton, Johns Hopkins, and Pennsylvania. He requested that when the body, "to be known as the Harpswell Laboratory," was incorporated the following summer, the Trustees of Tufts College transfer title to the property, with the understanding that the college would have a representative on the new governing board.[17] The trustees agreed. On August 12, 1913 the Certificate of Organization was signed at a meeting "duly called and held at the Laboratory, so-called, in the Town of Harpswell, Maine."[18] H. V. Neal signed as president and J. S. Kingsley as treasurer. The two directors were Duncan S. Johnson (Johns Hopkins) and George A. Bates (Tufts).

We do not know in which of the very earliest years the name Tufts Summer School of Biology was superseded by Harpswell Laboratory. Kingsley used the latter term as the title of his first article about the laboratory in *Science* as early as

1903. Neither do we know whether Tufts College accepted the new name officially or whether casual and habitual use at Harpswell made it stick. In any case, incorporation made official the name "Harpswell Laboratory."

In 1913 these significant changes were barely noticeable. Dr. Kingsley's family summered at their two cottages as usual, with the Neals living up the road in their five tents. The two biologists worked at the laboratory, except while getting their families settled into new homes in Urbana and Medford for the academic year 1913-1914.

World War I diverted both men and money from biological research during the first years of Neal's leadership. From 1914 to 1917 the Harpswell Laboratory accommodated from ten to twelve investigators, but in 1918 only Kingsley and two others attended. In 1919, on the verge of retirement, Kingsley directed six investigators. It was his last year at Harpswell. The group of researchers that arrived in 1920 included Ulric Dahlgren, professor of biology at Princeton University, and in October of that year the trustees of the Harpswell Corporation chose Dahlgren as the new director.

The fifty-year-old Dahlgren transformed Harpswell Laboratory into the new Mount Desert Island Biological Laboratory in only two years. He and his music-loving wife had been socially active at Harpswell since 1908 and had their own cottage there since 1913. Dahlgren's prestige derived in part from the fact that he was a lineal descendent of an officer in General George Washington's staff and the grandson of Rear Admiral John A. Dahlgren, sometimes called the father of U. S. naval ordnance, for whom Dahlgren Hall at Princeton University is named. Furthermore, Ulric Dahlgren was the only worker who had customarily brought two young scientists with him each summer to act as his laboratory assistants. He had earlier been assistant director of the Marine Biological Laboratory at Woods Hole, Massachusetts, in the summers of 1898 through 1906. Personally and professionally, Dahlgren's

standing eclipsed that of every other man then at Harpswell; he was the right person to revive the nearly moribund laboratory.

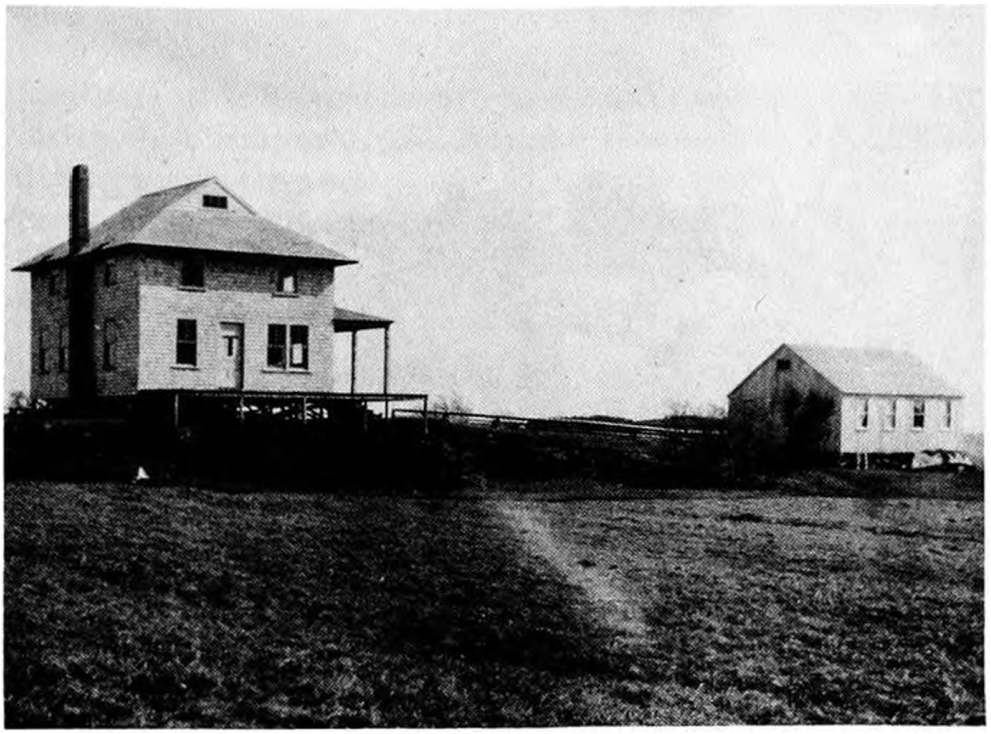
No additional land was available around the one-eighth acre purchased by Kingsley for Tufts. As Dahlgren's primary need was a larger site, he began to raise money to buy Harpswell's Merriconeag Hotel to serve as residence and dining hall. On its high and spacious lot overlooking bays and islands on every side, Dahlgren could build a bigger laboratory. Before the session of 1921 began, however, he dismissed the idea and accepted instead an invitation to reestablish the laboratory at Salsbury Cove (then spelled Salisbury Cove) on Mount Desert Island. He leased waterfront land in a group of conservation properties owned by the Wild Gardens of Acadia Association.

The new location, about five miles from Bar Harbor where the estates of several millionaires were then to be found, suggests that Dahlgren assumed he could obtain financial support from these wealthy men and women — and he did. In fact, his success as a fund raiser is reflected in one sentence of his obituary: "He was equally at home in the company of Maine coast fishermen, at a scientific session or in the drawing room of a potential benefactor of the Mount Desert Station."[19]

On a clear, warm June day in 1921, the *Codfish* set out from Laboratory Cove carrying the effects of the now-closed Harpswell Laboratory, along with sufficient gasoline for the one-hundred-mile trip to Salsbury Cove on the northeast side of Mount Desert Island. The *Codfish* reached Mount Desert Island after a thirteen-hour trip, bringing to a close one era and beginning another.

Dr. Dahlgren may have felt some nostalgia for Harpswell, because instead of erecting a larger laboratory he ordered the new one, now named the Neal Building, to be built of wood and in the same twenty-four by forty-two foot dimensions as Kingsley's enlarged sixteen-window laboratory of 1902.

Informality, similar to the atmosphere at Harpswell, prevailed at least until both fresh water and electricity could be extended to the site. Housing at Harpswell had been abundant, but the new location (originally fourteen and a half acres)



In the cottage above left, J. S. Kingsley spent pleasant summer months while conducting research, teaching classes, and directing the activities of the laboratory, also shown at right.

offered only one farmhouse. Thus, some biologists' families lived in tents from sheer necessity, not, as at Harpswell, from choice. Although relocated, the laboratory retained its earlier name until 1923. In that year the land leased to the corporation was offered as a gift, provided the facility's name was changed — as it was — to the Mount Desert Island Biological Laboratory.[20]

During his directorship, which ended in 1926, Ulric Dahlgren saw more laboratories and cottages built, modern equipment installed, and more researchers in attendance. Dahlgren's role in setting the laboratory on its present course of sophisticated scientific research is remembered in Dahlgren Hall, formerly a one-room schoolhouse and now a meeting place fully equipped for audiovisual presentations.

The laboratory beach. The waters off the coast were a fruitful source of dogfish, crabs, lobsters, clam worms, sea urchins, sea cucumbers, starfish, sandollars, seaweeds, and other materials for research.

At Harpswell Kingsley had prepared the way for Dahlgren by eliminating undergraduate students, by inviting universities to become responsible for selecting the investigators and paying the fees, and by transforming the laboratory into a self-governing institution. Kingsley would not have dreamed, however, that his one building — without electricity, running water, telephone, or indoor toilet — on its one-eighth of an acre of land would develop into a complex encompassing 250 acres. Today, more than a dozen laboratory buildings, some carrying the names of distinguished MDIBL biologists, house a variety of research functions. Research workers now include several classes: Principal Investigators, Summer Research Fellows, Associates/Technicians, and Students. Although Kingsley had found that students were a hindrance to research and had not admitted them after 1905, numerous students work at the MDIBL today, and receive training not through formal classes but through research experiences. These workers and their

families can be housed in the laboratory's own cottages, apartments, or dormitories and in some seasons fed in MDIBL's dining room. Operating costs, like the operations themselves, have grown. Although no financial report from Harpswell appears to have survived, one can imagine that yearly statements would be insignificant compared to the MDIBL's current $334,076 endowment.[21]

Equipment, too, has changed immeasurably since the Harpswell days. Today's applicants for research ask to use things unheard of at Harpswell. MDIBL offers three types of laboratory: those equipped with running seawater, with insulation, or with concrete floors. Its equipment includes a gamma or scintillation counter, an atomic spectrophotometer, ultra and refrigerated centrifuges, osometer, flame photometer, specimen tanks, and facilities for tissue culture.

Research at the MDIBL always has been somewhat esoteric to outsiders, if not downright mysterious. When a reporter asked Dr. Kingsley to explain to his readers the laboratory's work, Kingsley replied, "There is nothing to tell them that they can understand. What would the people care about 'The role of the heterochromosomes in sex determination' or 'Rhythmical pulsation in Scyphomedusae'!"[22] Even today the layperson can still be baffled, although generally speaking much of the laboratory's research has biomedical applications.

Here are the titles of three recent projects: "The effects of cadmium on hemodynamics and transport of ammonia across the gill of the spiny dogfish *Squalus acanthias*";[23] "Time-course of the establishment of uterine sea water conditions in pregnant dogfish *(Squalus acanthias)*";[24] "Evidence for trans-epithelial ouabain and furosemide sensitive mechanism across the ciliary epithelium of the shark *(Squalus acanthias).*"[25] Other than dogfish, the specimens most frequently used today are the small skate and the winter flounder.

It is still true, then, that the nonscientist finds it hard to appreciate the significance of the work done at a marine biological laboratory. Expressed as simply as possible, the MDIBL "has established an enviable tradition of comparative, largely

biomedical, research investigating fundamental cellular, tissue/organ, and whole animal processes of physiological and biochemical interest."[26] Biologists everywhere recognize the MDIBL as a center specializing in electrolyte and transport physiology, developmental biology, and electrophysiology.[27] Since the 1930s, virtually every notable renal (kidney) physiologist in the world has visited or worked at the laboratory.

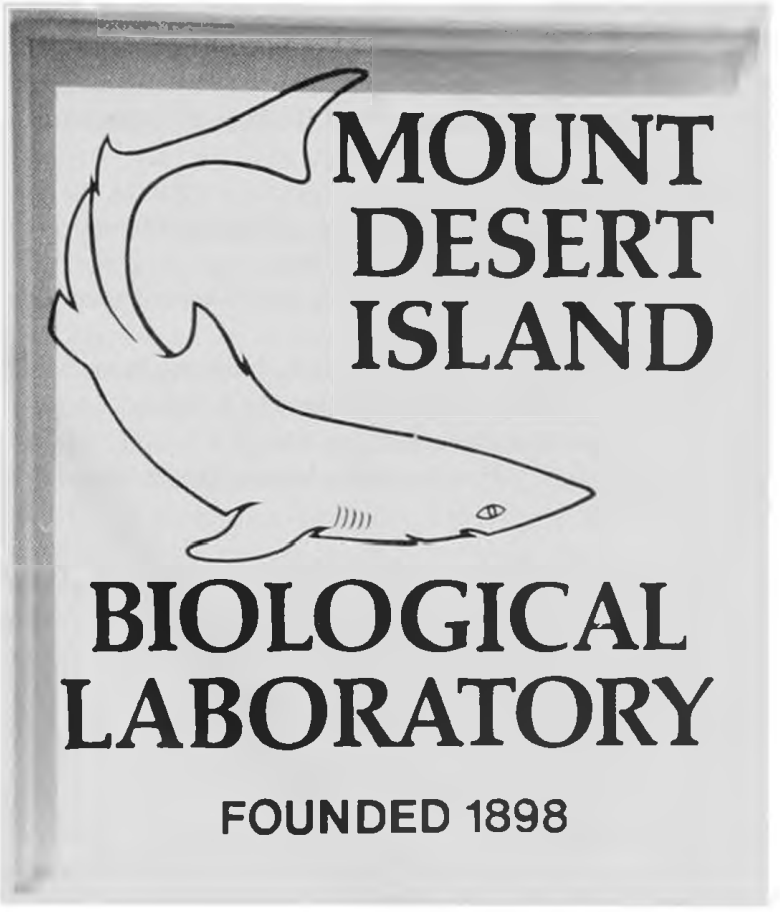
The recent Center for Membrane Toxicity Studies, established with funding from the National Institute of Environmental Health Sciences, has focused on the effects of compounds in the environment, particularly heavy metals such as lead, cadmium, and mercury, on various body tissues. In recent years, MDIBL investigators have also explored the effects of pesticides, industrial waste products, and petroleum derivatives on marine organisms and pelagic birds.

Another new development at the MDIBL is year-round operation in cooperation with the Center for Marine Studies of the University of Maine at Orono. Previously, the Salsbury Cove laboratory has had only about six administrative persons and a small but highly significant kidney research laboratory, headed by Dr. Bodil Schmidt-Nielsen, in place during the winter months.[28]

The MDIBL has been supported by the National Science Foundation, the National Institutes of Health, the Markey Trust, and several other foundations and private donors. The laboratory's endowment recently benefited from a significant bequest from the estate of Muriel Case Downer, a student specimen collector at the laboratory in the 1920s. In addition, some investigators come with individual grant awards, and others win scientific research prizes.

As the MDIBL's centennial year, 1998, approaches, its staff is rediscovering the laboratory's past. In the summer of 1987 a renovated building consisting of an office, a library, and a conference room was named the Kingsley Building, after the laboratory's founder.[29] The laboratory's past was thus linked with the promise of the future. Years to come will chronicle further growth for the unique institution that in almost one

hundred years of operation has made many scientific breakthroughs important in biomedical and environmental research.



NOTES

[1]This article draws upon my recent history, *The Harpswell Laboratory, 1898-1920: A Marine Biological Station* (privately printed, 1985). The article might have remained uncompleted without the generous permission of the MDIBL to use some documents that were moved from Harpswell in 1921 and forgotten until they were accidently discovered in an attic of the MDIBL in 1983.

[2]J. S. Kingsley, "The Harpswell Laboratory," *Science* 17 (June 19, 1903): 984. The other laboratories are the Marine Biological Laboratory at Woods Hole, Massachusetts, and the Cold Spring Harbor Laboratory on Long Island, New York.

[3]H. V. Neal, "Kingsley," *Science* 70 (December 13, 1929): 570-72.

[4]*Ibid.*

[5]Norbert Wiener, *Ex-Prodigy: My Childhood and Youth* (New York: Simon and Schuster, 1935), p. 111.

[6]This reminiscence appears in an eight-page history of the Harpswell Laboratory written by Kingsley in 1921 and incorporated into E. K. Marshall, Jr., "A History of the Mount Desert Island Biological Laboratory" (1962), mimeo, p. 1.

[7]*Tufts Weekly*, May 18, 1898.

[8]From attendance lists (1898-1922) in the MDIBL archives.

[9]Kingsley, "Harpswell Laboratory," p. 984.

[10]Patrick J. Lydon, District Manager, Central Maine Power Company, to author, September 9, 1975.

[11]Miriam Stover Thomas, "Tufts Marine Laboratory Born Back in 1901 at South Harpswell," *Lewiston Journal*, February 2, 1963.

[12]Kingsley, "Harpswell Laboratory," p. 986.

[13]Kingsley, in Marshall, "History of the Mount Desert Island Biological Laboratory," p. 1.

[14]*Ibid.*

[15]Years later, Kingsley referred to his resignation in a letter congratulating the president of Tufts on a bequest of $2 million received from Tufts alumnus and millionaire Austin B. Fletcher in 1923. "I always have a soft side for Tufts, for my twenty-one years there endeared the College to me and mine. I never would have left, had it not been for one of Fletcher's acts; but that is all past." (J. S. Kingsley to John Albert Cousens, president of Tufts College, July 15, 1923, Archives of Tufts University). Fletcher, according to University historian and archivist Russell E. Miller, was a Tufts trustee from 1909 and from 1913 president of the board until his death in 1923 (Miller to author, February 14, 1983). He had a very strong and domineering personality and ruled the trustees with an iron hand, brooking no opposition of any kind. Kingsley obviously ran afoul of Fletcher at one time or another, which probably accounts at least in part for Kingsley's resignation. The specific source of the conflict is not known.

[16]J. S. Kingsley to the trustees of Tufts College, April 15, 1913, Archives of Tufts University.

[17]*Ibid.*

[18]The certificate is filed at the capitol, Augusta, Maine.

[19]"Ulric Dahlgren '94" *Princeton Alumni Weekly*, September 13, 1946, Archives of Princeton University.

[20]Marshall, p. 4.

[21]David H. Evans, Director's Report, "Corporation Minutes," MDIBL, 1986, part 1 of his report.

[22]"Casco Bay Biological Specimens Become Famous," *Lewiston Journal*, September 11, 1909.

[23]*Bulletin*, MDIBL, 1986, p. 139.

[24]*Ibid.*, 1985, p. 142.

[25]*Ibid.*, 1985, p. 150.

[26]Evans, Director's Report, p. 3.

[27]*Bulletin*, MDIBL, 1986, p. i.

[28]The information provided by Dr. Donald A. McCrimmon, associate director of the MDIBL, about the most recent developments there is gratefully acknowledged. Also I thank Dr. David L. Wynes, former administrative director of the MDIBL for helping with my book and this article.

[29]A centennial committee will find the years at Harpswell recorded in two brief mimeographed accounts preserved at the MDIBL: Kingsley's eight paragraphs written evidently from memory in 1921 (with some errors) in Marshall, "History of the Mount Desert Island Biological Laboratory"; and Dahlgren's two pages dated 1924 ("Short Sketch of the History of the Mount Desert Island Biological Laboratory, 1898-1924," attributed to Dahlgren by the staff of the MDIBL). Events at Salsbury Cove from 1921 on are reported in two more recent mimeographed histories. The twelve-page history by E. K. Marshall, Jr. ("A History of the Mount Desert Island Biological Laboratory [1962], mimeo, 12 pp.) stops at 1962, however, and J. Wendell Burgers's history ("The Mount Desert Island Biological Laboratory: The Pioneer Days, 1898-1951 [West Hartford, Connecticut, 1982], mimeo, 60 pp.) concludes in 1951.

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